



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

EPA Region 5 Records Ctr.



287702

POLLUTION REPORT

**Date:** Friday, September 28, 2007

**From:** Sam Chummar, Acting OSC

**To:** Linda Nachowicz, EPA  
David Chung, EPA  
Sharon Jaffess, EPA  
Paul Bucholtz, MDEQ

**Subject:** Allied Paper/Portage Creek/Kalamazoo River Site  
Georgia-Pacific Kalamazoo and Former Hawthorne Mills Removal Action  
Completion of Action

<b>POLREP No.:</b>	1 and Final	<b>Site #:</b>	059B
<b>Reporting Period:</b>	11/27/06-07/11/07	<b>D.O. #:</b>	
<b>Start Date:</b>	11/27/06	<b>Response Authority:</b>	CERCLA
<b>Mob Date:</b>	11/27/06	<b>Response Type:</b>	Time-Critical
<b>Completion Date:</b>	07/11/07	<b>NPL Status:</b>	NPL
<b>CERCLIS ID #:</b>	MID006007306	<b>Incident Category:</b>	Removal Action
<b>RCRIS ID #:</b>		<b>Contract #:</b>	

**Site Description**

The former Kalamazoo Mill (2425 King Highway) is located approximately two miles east of the downtown area of the City of Kalamazoo. It is bounded by King Highway to the south, railroad tracks and commercial property to the north, the former Hawthorne Mill to the east, and by the Kalamazoo River to the southwest and west. The former Hawthorne Mill is located immediately adjacent to and east of the former Kalamazoo Mill. It has no known address, but is bounded by King Highway to the south and an undeveloped wooded area to the east. Both the former Kalamazoo and Hawthorne Mill (the former Mills) properties are bounded by Michigan Avenue to the north. Approximately 6,733 people live within a one mile radius of the former Mills.

Polychlorinated Biphenyls (PCBs) were discovered at high concentrations in near-surface soils on both properties. PCBs are toxic, persist in nature, and accumulate in the tissues of wildlife. The presence of high levels of PCBs in near-surface soils (330 mg/kg at the former Kalamazoo Mill's Refuse Area and 490 mg/kg at the former Hawthorne Mill's Oxbow Area) posed a direct contact threat to trespassers and wildlife. Additionally, the contaminated residuals had the potential to spread into the Kalamazoo River because they were located in floodplain soils subject to frequent inundation and transport. The spread of this contamination into the Kalamazoo River would further contaminate the aquatic ecosystems of both the Kalamazoo River and Lake Michigan.

Additional site description and history can be found in the May 2006 *Time Critical Removal Action Work Plan for the Refuse Area at the Georgia-Pacific Corporation*

*Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property (Work Plan), the October 2006 Time Critical Removal Action Memorandum (AM), and other Administrative Record documents.*

### **Situation**

The AM documented Region 5's determination of an imminent and substantial threat to public health and the environment posed by the wastes and soils contaminated with high concentrations of PCBs at the former Mills. The action proposed within the AM to mitigate the potential threat is the excavation of an estimated 35,000 cubic yards (cy) of PCB contaminated material by Georgia-Pacific Corporation (GP) and disposal at the Willow Boulevard/A-Site Landfill (WB/A-Site), Operable Unit #2 of the Allied Paper/Portage Creek/Kalamazoo River Site (or when appropriate, at an approved off-site disposal facility). All areas targeted, were excavated until visually clean soil was identified (i.e. free from paper residuals). Verification samples (frequency and locations were determined based on the steps described in *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria*) were taken after visual criteria were satisfied. If verification samples did not meet the performance standard (a performance standard of 10 mg/kg was chosen with a concentration goal of 1 mg/kg), an additional six inches of material was excavated in that area, followed by re-sampling until results were below the performance standard.

### **Oxbow Area**

A pipe was discovered leading from the location of a former clarifier to the Oxbow Area. Additional investigations revealed PCB contamination in near surface soil at the Oxbow Area. Initial estimates indicated that 5,000 cy would need to be excavated from this area. When completed, approximately 17,488 loose cubic yards (lcy) of soil/residuals had been excavated from the Oxbow Area and consolidated at the WB/A-Site (assuming a 20% bulking factor, the in-place volume is estimated to be 13,990 cy).

Once the excavation was completed, and verification sampling satisfied the established criterion (all samples met the concentration goal of 1 mg/kg), the excavation area was backfilled with 11,260 cy of fill and a layer of topsoil (4,480 cy). One area where the excavation neared the banks of the Oxbow Channel was vegetated with woody shrubs, but the remainder of the excavation was left to naturally vegetate, per the Work Plan.

### **Refuse Area**

The Refuse Area was discovered (deteriorating drums were discovered, excavated and disposed of off-site) during a previous action taking place at the neighboring lagoons. Additional study of the area revealed pockets of PCB contaminated residuals in near-surface soils. Here an estimated 30,000 cy of material was to be excavated.

Approximately 33,203 lcy (assuming a 20% bulking factor, the in-place volume is estimated to be 26,562 cy) of material was excavated from the Refuse Area and consolidated at the WB/A-Site. All verification samples taken in the Refuse Area met the concentration goal of 1 mg/kg except two samples; samples G53213 (1.52 mg/kg)

and G53247 (2.7 mg/kg) exceeded the concentration goal but were below the MDEQ unrestricted residential use criterion of 4 mg/kg, so no additional excavation was performed.

A layer of residuals found extending past the northeast fence line, north of the pump station, was left in place. A set of active power lines prohibited excavation, so test pits were dug to determine the extent of the layer and biased samples were taken to characterize the residuals for PCBs. The samples returned non-detect for PCBs, and so this area was left in place.

Additional refuse, drums and drum remnants were discovered and excavated from Refuse Area. Drums and loose materials were segregated, and characterized for PCBs, TCLP metals, VOCs, SVOCs, and RCRA hazardous waste characteristics. After testing, the approximate 464 lcy (assuming a 20% bulking factor, the in-place volume is estimated to be 371 cy) and 12 drums were transported to the C&C Landfill (a Class II landfill) in Marshall, Michigan; an additional drum had to be shipped to EQ Landfill in Detroit, Michigan due to elevated levels of tetrachloroethene.

Following the completion of excavation activities in the Refuse Area, the area was restored as a floodplain. A 5-ft-wide, 6-inch-thick layer of riprap was installed along the bank of the Kalamazoo River to stabilize the shoreline, excavation areas were backfilled with 13,085 cy of sand, and a layer of topsoil (2,052 cy) was installed in excavation areas. The area was then re-vegetated.

#### Additional Excavation Areas

Three additional areas were addressed in various locations on the former Kalamazoo Mill property and WB/A-Site: the Transformer Pad Area (TPA), the Wastewater Pipeline (WWP), the Underground Pipe (UP), and the Diesel Fuel Spill Area (DFSA).

The TPA formerly housed transformers and had visibly stained concrete and soil. The visibly stained concrete and soil were excavated, characterized for PCBs, TCLP metals, pesticides, VOCs, and SVOCs. Following this characterization it was transported to C&C Landfill for disposal (approximately 76.5 lcy or assuming a 20% bulking factor, the in-place volume is estimated to be 61 cy). All verification samples taken in the TPA met the concentration goal of 1 mg/kg except G53302 (3.22 mg/kg), which was below the MDEQ unrestricted residential use criterion of 4 mg/kg, so no additional excavation was performed. After verification sampling, the TPA was backfilled and restored to match surrounding areas.

The WWP formerly conveyed waste water from one of the mill buildings to the lagoon area. Approximately 420 lcy (assuming a 20% bulking factor, the in-place volume is estimated to be 336 cy) of material was excavated from this area and disposed of at the WB/A-Site. After verification sampling (all samples met the concentration goal of 1 mg/kg) the WWP was backfilled and restored to match surrounding areas.

The UP, like the WWP, formerly conveyed wastewater from one of the mill buildings to the lagoon area. Approximately 1,964 lcy (assuming a 20% bulking factor, the in-place volume is estimated to be 1,571 cy) of materials were removed and consolidated in the WB/A-Site. After verification sampling (all samples met the concentration goal of 1 mg/kg) the UP was backfilled and restored to match surrounding areas.

A fuel storage tank was vandalized at the WB/A-Site, and diesel fuel was released. This area became known as the DFSA. Visually impacted soils were removed and excavation continued until verification samples confirmed there were no PAH values exceeding the MDEQ soil cleanup criteria in the area of release. Excavated soils (174 lcy or assuming a 20% bulking factor, the in-place volume is estimated to be 139 cy) were characterized and sent to the C&C Landfill for disposal. The area was then backfilled and restored to match surrounding areas.

#### Willow Boulevard/A-Site Landfill

Approximately 53,075 lcy (assuming a 20% bulking factor, the in-place volume is estimated to be 42,459 cy) were consolidated from the former Mills into the WB/A-Site. The consolidated materials were covered with a six inch layer of sand and a six inch layer of topsoil. After grading to a 4:1 slope, the area was vegetated with shallow-rooted grasses. This will serve as a temporary cap until the WB/A-Site is closed.

#### **Next Steps**

The Oxbow Area, Refuse Area, and WB/A-Site will be monitored according to the July 2007, *Time Critical Removal Action for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property Post-Removal Site Control Plan* (Control Plan). The Control Plan calls for maintenance of the Refuse Area and Oxbow Area restorative measures for five years, and maintenance of the WB/A-Site temporary cap until permanent measures are implemented there. Inspections are scheduled quarterly, with unscheduled inspections occurring after a 5-year, 24 hour storm (defined as approximately 3.25 inches of rainfall over 24 hours).

A draft report summarizing the removal action was submitted to and is currently under review by MDEQ and Region 5.

#### **Key Issues**

The PCB contaminated near-surface soils at the Oxbow Area and Refuse Area were excavated and consolidated into the WB/A-Site. At the WB/A-Site, consolidated material has been capped and is being monitored to ensure contamination will not spread.

**Cost Information \***

This removal action was performed by the GP. GP reports that the cost to complete this action is approximately \$3,025,225.

**Disposition of Wastes**

Wastestream	Medium	Quantity	Containment - Migration Control	Treatment	Disposal
<b>Oxbow Area</b>					
Paper Residuals	Solid Waste	17,488 lcy (13,990 cy)	Excavation of Materials	None	On-site at Willow Boulevard/A- Site Landfill
<b>Refuse Area</b>					
Paper Residuals	Solid Waste	33,203 lcy (26,562 cy)	Excavation of Materials	None	On-site at Willow Boulevard/A- Site Landfill
Non- Hazardous Waste	Solid Waste	464 lcy (371 cy) & 12 Drums	Excavation of Materials	None	C&C Landfill in Marshall, Michigan
Hazardous Waste	Solid Waste	1 Drum	Excavation of Materials	None	EQ Landfill in Detroit, Michigan
<b>Additional Excavation Areas</b>					
TPA	Solid Waste	76.5 lcy (61 cy)	Excavation of Materials	None	C&C Landfill in Marshall, Michigan

\* The above accounting of expenditures is an estimate based on figures known to the Acting OSC at the time this report was written. The Acting OSC does not necessarily receive specific figures on final payments made to any contractors. Other financial data which the Acting OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

Wastestream	Medium	Quantity	Containment - Migration Control	Treatment	Disposal
WWP	Solid Waste	420 lcy (336 cy)	Excavation of Materials	None	On-site at Willow Boulevard/A- Site Landfill
UP	Solid Waste	1,964 lcy (1,571 cy)	Excavation of Materials	None	C&C Landfill in Marshall, Michigan
DFSA	Solid Waste	174 lcy (139 cy)	Excavation of Materials	None	C&C Landfill in Marshall, Michigan
<b>Site Wide</b>					
Waste Water	Liquid Waste	135,853 gal	Collected and Stored	Adsorption: GAC	Discharged into Davis Creek